

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
16 March 2006 (16.03.2006)

PCT

(10) International Publication Number
WO 2006/028275 A1

(51) International Patent Classification:
G02F 1/1335 (2006.01) G02F 1/13363 (2006.01)

(21) International Application Number:
PCT/JP2005/016990

(22) International Filing Date:
8 September 2005 (08.09.2005)

(25) Filing Language:
English

(26) Publication Language:
English

(30) Priority Data:
2004-260920 8 September 2004 (08.09.2004) JP

(71) Applicant (for all designated States except US): **DAI NIPPON PRINTING CO., LTD.** [JP/JP]; 1-1, Ichigaya-kagacho 1-chome, Shinjuku-ku, Tokyo 162-8001 (JP).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **MORIYA, Norihisa** [JP/JP]; c/o DAI NIPPON PRINTING CO., LTD., 1-1, Ichigaya-kagacho 1-chome, Shinjuku-ku, Tokyo 162-8001 (JP).

(74) Agents: **YAMASHITA, Akihiko et al.**; c/o TOKYO CENTRAL PATENT FIRM, 4th Floor, Oak Building Kyobashi, 16-10, Kyobashi 1-chome, Chuo-ku, Tokyo 104-0031 (JP).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

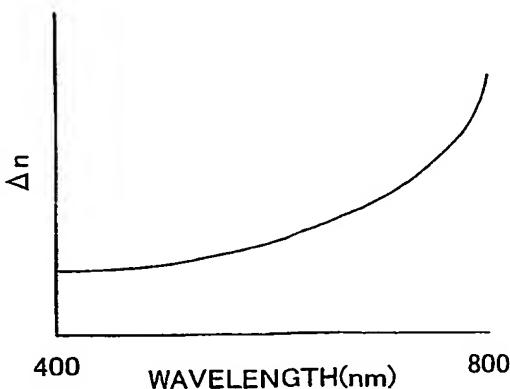
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report
— with amended claims

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: COLOR FILTER AND COLOUR-CORRECTED RETARDATION LAYER ARRANGEMENT FOR A LIQUID CRYSTAL DISPLAY



(57) Abstract: The main object of the present invention is to provide a colour filter with a retardation layer, capable of minimising light leakage even in the case the visual angle is large in the black display state, for a liquid crystal display. The present invention achieves the object by providing a colour filter with a retardation layer comprising a substrate, a colour layer formed on the substrate, being arranged in a plurality of rows having different thicknesses according to each colour, a first retardation layer formed on the colour layer, made of a liquid crystalline polymer, having its optic axis perpendicular to a plane of the substrate so as to function as a C plate, and a second retardation layer the colour layer, wherein the optic axis of the second retardation layer is arranged parallel to the plane of the substrate so as to function as a positive Aplate with positive refractive index anisotropy, and the refractive index anisotropy of the second retardation layer in the visible light range decreases at shorter wavelengths inverse dispersion characteristics.

WO 2006/028275 A1